

*U.S. Patent Application Serial No. 10/578,871  
Reply to Office Action dated December 10, 2007*

However, there is a difference between Kosecki's "resonant sound" and the "predetermined musical sound" which the Applicant claims. The difference is this: *Kosecki's resonant sound is not selective of depressed keys; it includes all of the keys*, because it is derived from a depressed damper. The Applicant's claimed feature, "key depression state detecting means detecting whether a key which is in a *specific relation* with a played key is already depressed or not when a key playing operation is performed," is not disclosed.

Kosecki's resonant sound is obtained from a mechanical piano in which the "damper pedal was fully depressed" (col. 6, line 28). When the damper is depressed, *every* string that can resonate with the played string will do so.<sup>12</sup> Kosecki stores this sound as the "resonant" sound after removing the "fundamental" sound of the key being played alone (col. 6, lines 29-34).

**Example.** Suppose that on a mechanical piano a G key is held down and then the lower C key is struck. When the C key is played, the G string will be excited into resonance and the sound will be different from the sound of the C key being played alone without the G key depressed. If an E key rather than the G is held down, followed by playing the C, the sound of the C note will again be different because the E string will resonate differently from the G string. In the language of the Applicant's claim 1, the "specific relation" is different in the two cases; one is a fifth, the other a third. With Kosecki's electronic instrument, these two cases are *not* distinguished because the "resonant sound" of the C key is recorded with the damper fully

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1. A mechanical piano's damper acts to stop the vibration of a played string, and it operates independently for each string (Kosecki col. 1, lines 50-67). That is, when a key is played, only the damper for that string leaves the string, so that the string can make a clear sound. On the other hand, the dampers for all non-played keys remain on their respective strings (Kosecki col. 2, lines 1-5). When the damper pedal is stepped on, it lifts the damper off each of the respective strings. When a key is played with the damper pedal stepped on, all of the other strings can resonate and the resulting resonant sound is not based on the relationship between the played key and the resonating key.

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depressed, and it therefore includes the resonances of *both* the E string and the G string—plus every *other* string in the piano as well.

The Applicants' claimed feature, "generating a predetermined musical sound based on the relation between the played key and the depressed key from a position of the depressed key," is not disclosed by Kosecki because pressing the damper does not provide any *specific* relation between keys; it only changes the relationship between a played key and *all* of the other keys. A piano player never depress all of the keys simultaneously, indeed cannot, and therefore the feature does not read on Kosecki and Kosecki does not anticipate.

**Claim 2.** Kosecki describes in col. 3, lines 47-51, that "the analogue audio signal is supplied from the electronic sound generating system 5 to the sound system 3, and the electronic sounds are produced from the analogue audio signal through the speaker. The audio signal may be supplied through a connector to another electronic musical instrument." In addition, at col. 4, lines 18-21, Kosecki writes that "the central processing unit 5a calculates a key velocity, and provides a key-touch code KT representative of the sound intensity of an electronic sound for the depressed key 1a." However, from this description it cannot be inferred that a monaural resonance is generated from left- and right-hand speakers *in a sound intensity corresponding to the position of the depressed key*.

**Claim 3.** The Examiner applies the text at col. 5, lines 65-67 of Kosecki, stating that "if the envelope generator 503 gives a large attack level to the envelope, an electronic sound to be generated has a large sound intensity." With respect, it cannot be concluded from this that the volume (sound intensity) of the resonance is controlled *based on the relation between the position of the played key and the position of the already depressed key*, as recited in claim 3.

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With respect, the applied reference does not disclose the subject matter of claims 1-4 or the analogous method and program claims 5-8. Therefore withdrawal of the rejection, and allowance, are requested.

In view of the aforementioned amendments and accompanying remarks, the application is submitted to be in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the undersigned attorney at the telephone number indicated below to discuss this case.

Respectfully submitted,

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*I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (571-273-8300) on March 6, 2008.*

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Signature 